Federal Operating Permit
Article 1

This permit is based upon the requirements of Title V of the Federal Clean Air Act and Chapter 80, Article 1 of the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution. Until such time as this permit is reopened and revised, modified, revoked, terminated or expires, the permittee is authorized to operate in accordance with the terms and conditions contained herein. This permit is issued under the authority of Title 10.1, Chapter 13, §10.1-1322 of the Air Pollution Control Law of Virginia. This permit is issued consistent with the Administrative Process Act and 9 VAC 5-80-50 through 9 VAC 5-80-300 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution of the Commonwealth of Virginia.

Authorization to operate a Stationary Source of Air Pollution as described in this permit is hereby granted to:

Permittee Name:	Owens-Brockway Glass Container Inc.
Facility Name:	Owens-Brockway Glass Container Inc.
Facility Location:	150 Industrial Blvd. Toano, Virginia 23168
Registration Number:	60923
Permit Number:	TRO60923

August 8, 2005
Effective Date

August 7, 2010
Expiration Date

_____(for)____
Director, Department of Environmental Quality

August 1, 2005
Signature Date

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I. Facility Information

Permittee
Owens-Brockway Glass Container Inc.
150 Industrial Blvd.
Toano, Virginia 23168

Responsible Official
Mr. William C. Swarts
Plant Manager

Facility
Owens-Brockway - Toano
150 Industrial Blvd.
Toano, Virginia 23168

Contact Person
Mr. George Barnett
Plant Engineer
757-566-2423

County-Plant Identification Number: 51-095-00022

Facility Description: SIC Code [3221] – **GLASS CONTAINER MANUFACTURING -** Glass containers are manufactured from recycled glass (post-consumer and in-house process recycle) and other raw materials. The plant includes the following specific processes: raw material and cullet receiving and storage, raw material blend/mix, glass-melting furnaces, glass forming, final bottle treatment and packaging.

Raw Material and Cullet receiving and storage - The facility receives raw materials via truck and rail and stockpiles them in a storage area. The solid raw materials (e.g., sand, salt cake, limestone and soda ash) are conveyed from the truck or rail unloading area to a bucket elevator, which deposits them into silos. A crusher is utilized to size the cullet, then it is screened and the oversize particles are recycled. Post-consumer and in-house crushed cullet – glass pieces to be used in the recycling process – is transported by bucket elevators to the silos.

Raw Material Blend/Mix – The solid raw materials for the next batch of glass are transported via conveyors and chutes from the respective silos to the sand scale, major scale and minor scale to be measured. Then the materials are conveyed into the mixer and then on to the mixed batch surge hopper. Further transfer is via a vibratory conveyor, mixed batch bucket elevator and a belt conveyor to the batch storage bins, which feed the glass furnaces. The silos, scales and conveyors are equipped with dust collectors.

Glass melting furnaces – The facility has two furnaces (A and B) which produce the melt used in the glass forming step. The primary fuel for the furnaces is natural gas. The use of residual oil has been discontinued and is documented in one of the latest NSR permits, dated March 5, 2004. The furnaces are also fitted with electric boost systems that add to the heat applied to the melt without increasing fuel usage. Each furnace is equipped with refiners and forehearths that prepare the glass melt for the forming process. The refiners and forehearths are also fired with natural gas.

Glass Forming – Bottle forming machines shape the glass melt using processes of shearing, gobbing and the final forming. The bottle molds must be continually maintained to produce satisfactory bottles. Preparation of the molds consists of mold repair, cleaning lubricating, curing and heating. Periodic mold swabbing is performed as part of the continuous mold maintenance process. The bottle annealing process is accomplished in a moving bed kiln called a lehr; two each per furnace. The lehrs are fired with natural gas. Molded glass is treated in the Hot End Surface Treatment (HEST) process where monobutyltin trichloride is applied as a mist. The material forms a coating of tin oxide on the outer surface of the bottles which enhances lubricity during subsequent processing. Further down the line, a Cold End Surface Treatment consists of spraying a dilute solution of polyethylene emulsion on the bottles.

Final Bottle Treatment and Packaging – During the final processing, a bottle coding machine prints the date on the bottles and then they are packaged in cardboard boxes with coded numbers to identify the contents.

Permits in-Force for this Facility – A new NSR permit was issued on March 5, 2004 in order to incorporate new pollution control and monitoring equipment for the furnaces. A common ESP was installed to control the particulate from the glass melting furnaces and Continuous Emission Monitors (CEMs) for NOx were installed at each furnace stack. During retrofit operations, the COMs that were installed at the plant were removed since they would be unnecessary after an ESP was installed. Changes in the material used in the HEST process required a new NSR permit for that emissions unit. A new NSR permit was issued for the HEST process on April 12, 2005 and the applicable requirements incorporated into this Title V document for Owens-Brockway.

Changes From the Previous Title V Permit - Since No. 6 fuel has been eliminated and only natural gas is used at the plant, all of the fuel burning emission units were looked at again for 'significance'. When considering the heat input to several of the ancillary process units at the plant, it was found that several could be considered insignificant and the permit could be simplified in the process. The result of this new analysis was to move several of the fuel-burning units to the insignificant emission unit list in the permit. The Refiners, at 2.8 mmBtu/hour, the Forehearths at 1.8 mmBtu/hour and the annealing Lehrs at 4.2 mmBtu/hour were all added to the list as insignificant by size. All of these units vent inside the plant and have few emissions due to the firing with natural gas.

II. Emission Units

Equipment to be operated consists of:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Fuel Burning Equipment							
1 A	S-1	Furnace A	51.9 mmBtu/hour	Electrostatic precipitator	ESP-1	PM, PM10, opacity	March 5, 2004
1 B	S-2	Furnace B	51.9 mmBtu/hour	Electrostatic precipitator	ESP-1	PM, PM10, opacity	March 5, 2004
Other Equipment with significant emissions							
6	S-5	Hot End Surface Treatment Process	24 # of MBTT/hour	none	N/A	N/A	April 12, 2005

*The Size/Rated capacity is provided for informational purposes only, and is not an applicable requirement.

III. Furnace A and B Requirements – (emission unit ID# 1-A and 1-B)

A. Limitations

1. Particulate emissions from the glass melting furnaces shall be controlled by a 3-field Electrostatic Precipitator (ESP-1). The ESP shall be provided with adequate access for inspection and shall be in operation when either furnace is operating at a glass production rate of more than 50 tons per day. Bypass events that exceed one hour shall be reported to the DEQ in accordance with the notification procedure in Condition # 26 of the 3/5/2004 NSR permit.
   (9 VAC 5-80-110 and Condition 3 of 3/5/2004 NSR permit)

2. **Fuel** - The approved fuel for the glass melting furnaces is natural gas. A change in the fuel may require a permit to modify and operate.
   (9 VAC 5-80-110 and Condition 9 of 3/5/2004 NSR permit)

3. **Sulfur Dioxide Standard –** No owner or other person shall cause or permit to be discharged into the atmosphere from any combustion installation any sulfur dioxide emissions in excess of the following limits:

   SO_2 (for each furnace; Units 1-A and 1-B) 132 lbs/hour per unit

   [S = 2.54 K], where S = allowable emissions of sulfur dioxide expressed in pounds per hour and K = heat input at total capacity expressed in Btu x 10^6 per hour.

   (9 VAC 5-80-110 and 9 VAC 5-40-280 B.)

4. **Production Limit** – The production of glass by each furnace shall not exceed 105,850 tons per year, calculated monthly as the sum of each consecutive 12-month period.
   (9 VAC 5-80-110 and Condition 8 of 3/5/2004 NSR permit)

5. **Emission Limits** – Emissions from the operation of the glass melting furnace unit 1-A shall not exceed the limits specified below (TSP and PM-10 measured after the ESP):

TSP (filterable)	2.4 lbs/hr	10.6 tons/yr
PM10 (filterable plus condensable)	16.4 lbs/hr	72.0 tons/yr
Sulfur Dioxide	43.5 lbs/hr	190.5 tons/yr
Nitrogen Oxides	72.5 lbs/hr	317.6 tons/yr
Carbon Dioxide	2.4 lbs/hr	10.6 tons/yr
Volatile Organic Compounds	2.4 lbs/hr	10.6 tons/yr

These emissions are derived from the estimate overall emission contribution from operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions numbers III.A.1, 2, 3, 4 and III.B.3.
(9 VAC 5-80-110 and Condition 10 of 3/5/2004 NSR permit.)

6. **Emission Limits** – Emissions from the operation of the glass melting furnace unit 1-B shall not exceed the limits specified below (TSP and PM-10 measured after the ESP):

TSP (filterable)	2.4 lbs/hr	10.6 tons/yr
PM10 (filterable plus condensable)	16.4 lbs/hr	72.0 tons/yr
Sulfur Dioxide	47.1 lbs/hr	206.4 tons/yr
Nitrogen Oxides	77.3 lbs/hr	338.7 tons/yr
Carbon Dioxide	2.4 lbs/hr	10.6 tons/yr
Volatile Organic Compounds	2.4 lbs/hr	10.6 tons/yr

These emissions are derived from the estimate overall emission contribution from operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions numbers III.A.1, 2, 3, 4 and III.B.3.
(9 VAC 5-80-110 and Condition 11 of 3/5/2004 NSR permit.)

7. Emissions of the pollutants controlled by the ESP control unit shall not exceed the limits specified below:

TSP (filterable)	4.8 lbs/hour	21.2 tons/year
PM-10 (filterable plus condensable)	32.8 lbs/hour	144.0 tons/year

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of the emission limits. Compliance with these emission limits may be determined as stated in Condition numbers III.A.1, 2, 3, 4 and III.B.3.
(9 VAC 5-80-110 and Condition 12 of 3/5/2004 NSR permit)

8. **Visible Emission Limit** - Visible emissions from the ESP stack shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30 percent opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown, and malfunction.
(9 VAC 5-80-110 and Condition 13 of 3/5/2004 NSR permit)

9. **Maintenance/Operating Procedures** – The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment, monitoring devices, and process equipment which affect such emissions:

   a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.

   b. Maintain an inventory of spare parts.

   c. Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.

   d. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

   Records of maintenance and training shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.
   (9 VAC 5-50-20E, 9 VAC 5-80-110 and Condition 28 of 3/5/2004 NSR permit)

B. Monitoring

1. **Monitoring Devices** – The glass melting furnaces shall be equipped with devices to continuously measure and record nitrogen oxide emissions (CEMs).

   Electrostatic precipitator – At a minimum, the ESP shall be operated at the minimum hourly average power rating from the most recent performance test for particulate emissions to ensure peak efficiency for particulate control.

   Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the glass furnaces are operating.
   (9 VAC 5-80-110, Condition 5 of 3/5/2004 NSR permit and the most recent particulate performance tests of July 13, and 14, 2004)

2. **Monitoring Device Observation** – The ESP used to control particulate emissions from the glass melting furnaces shall be monitored for proper operation by the permittee on a continuous basis by annunciator panel or as recommended by the manufacturer. The permittee shall keep a log of the observations of the following ESP parameters (either hard copy or electronic file):

   a. Primary Volts, Primary Amps and Power Input in Watts.

   b. Secondary Kilovolts, Secondary milliamps and Secondary Power in Watts.

   c. Spark rate.

   (9 VAC 5-80-110 and Condition 6 of 3/5/2004 NSR permit)

3. **Visible Emissions Monitoring** – The permittee shall perform a monthly visual evaluation on the stack of the ESP during normal operation of the glass furnaces. If such visual observation indicates any visible emissions, the permittee shall take corrective actions to eliminate the visible emissions. If such corrective action fails to eliminate the visible emissions, the permittee shall conduct a visible emissions evaluation (VEE) using 40 CFR 60, Appendix A, Method 9 for six minutes. If the six-minute VEE opacity average exceeds 20%, the VEE shall continue for an additional twelve minutes. If any of the six-minute averages during the 18 minutes exceeds 30%, the VEE shall continue for one hour from the initiation, to determine compliance with the opacity limit. The permittee shall record the details of the visual emissions observations (VEEs) and any corrective actions taken.

   (9 VAC 5-80-110 and Condition 7 of 3/5/2004 NSR permit)

C. Recordkeeping

1. **On Site Records** - The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Tidewater Regional Office. These records shall include, but are not limited to:

   a. The annual production of glass, calculated monthly as the sum of each consecutive 12-month period;

   b. Hourly, monthly and annual emissions for NOx from each furnace using CEM data and calculation methods approved by the Tidewater Regional Office to verify compliance with the lbs per hour and tons per year limitations in Conditions III.A.5 and III.A.6;

   c. Operation and control device monitoring records for the ESP;

   d. ESP scheduled and unscheduled maintenance, and operator training;

   e. Continuous monitoring systems calibrations and calibration checks, percent operating time, and excess emissions;

f. Monthly visible emissions monitoring results;

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.
(9 VAC 5-80-110 and Condition 16 of 3/5/2004 NSR Permit)

D. Testing

1. The permitted facility shall be constructed so as to allow for emissions testing and monitoring upon reasonable notice at any time, using appropriate methods. This includes constructing the facility such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and providing stack or duct that is free from cyclonic flow. Test ports shall be provided when requested at the ESP stack or at the appropriate locations or in accordance with the applicable performance specification (reference 40 CFR 60, Appendix B).
(9 VAC 5-50-30, 9 VAC 5-80-110 and Condition 17 of 3/5/2004 NSR permit)

2. When testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the following methods in accordance with procedures approved by the DEQ as follows:

Pollutant	Test Method (40 CFR Part 60, Appendix A)
VOC	EPA Method 25a
NO_x	EPA Method 7E
SO_2	EPA Method 6C
CO	EPA Method 10 or 10B
PM/PM-10	EPA Methods 5, 17, 201, 202
Visible Emission	EPA Method 9

(9 VAC 5-80-110)

E. Continuous Emission Monitors

1. Continuous Emission Monitoring systems, meeting the design specifications approved by the DEQ, equivalent to the requirements of 40 CFR 60, Appendix B, shall be installed to measure and record emissions of NOx from the glass furnaces as pounds per hour. The CEMs shall be installed, calibrated, maintained, audited and operated in accordance with the requirements of 40 CFR 60.13, Appendix F or DEQ approved procedures which are equivalent to the requirements of 40 CFR 60.13, Appendix F. Data shall be reduced to one-hour averages.
(9 VAC 5-50-40, 9 VAC 5-80-110 and Condition 19 of 3/5/2004 NSR permit)

2. **CEMs Performance Evaluation** – Performance evaluations of the continuous monitoring systems shall be conducted in accordance with DEQ approved procedures, equivalent to 40 CFR Part 60, Appendix B, and shall take place on a recurring basis, but no later than the fourth calendar quarter after the previous evaluation. Initial performance testing was completed on October 22, and 23, 2003. Two copies of the performance evaluation report shall be submitted to the Tidewater Regional Office within 60 days of the evaluation. The continuous monitoring systems shall be installed and operational prior to conducting any performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements of recommendations for installation, operation and calibration of the device. A 30-day notification of continuous monitoring system performance evaluations shall be submitted to the Tidewater Regional Office:
(9 VAC 5-50-40, 9 VAC 5-80-110 and Condition 20 of 3/5/2004 NSR permit)

3. **CEMs Quality Control Program** – A CEMs quality control program which meets the requirements of 40 CFR 60.13 and Appendix B and F or is equivalent to the requirements of 40 CFR 60.13 and Appendix B and F shall be implemented for all continuous monitoring systems.
(9 VAC 5-50-40, 9 VAC 5-80-110 and Condition 21 of 3/5/2004 NSR permit)

4. **Reports for Continuous Monitoring Systems** – The permittee shall furnish written reports to the Tidewater Regional Office of excess emissions from any process monitored by a continuous monitoring system (CEMs) on a quarterly basis, postmarked no later than the 30th day following the end of the calendar quarter. These reports shall include, but are not limited to the following information:

   a. The magnitude of excess emissions, any conversion factors used in the calculation of excess emissions, and the date and time of commencement and completion of each period of excess emissions;

   b. Specific identification of each period of excess emissions that occurs during startups, shutdowns, malfunctions of the process, the nature and cause of the malfunction (if known), and the corrective action taken or preventative measure adopted;

   c. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments; and

   d. When no excess emissions have occurred or the continuous monitoring systems have not been operative, repaired or adjusted, such information shall be stated in that report.

   (9 VAC 5-50-50, 9 VAC 5-80-110 and Condition 22 of 3/5/2004 NSR permit)

F. Notifications and Reports

1. **Notification for Control Equipment Maintenance** – The permittee shall furnish notification to the Tidewater Regional Office of the intention to shut down or bypass, or both, air pollution control equipment for necessary scheduled maintenance, which results in excess emissions for more than one hour, at least 24 hours prior to the shutdown. The notification shall include, but is not limited to, the following information:

   a. Identification of the air pollution control equipment to be taken out of service, as well as its location, and registration number;

   b. The expected length of time that the air pollution control equipment will be out of service;

   c. The nature and quantity of emissions of air pollutants likely to occur during the shutdown period;

   d. Measures that will be taken to minimize the length of the shutdown or to negate the effect of the outage.

   (9 VAC 5-20-180B, 9 VAC 5-80-110 and Condition 25 of 3/5/2004 NSR permit)

IV. HEST Process System Requirements – (emission unit ID# 6).

A. Limitations

1. **Emission Controls** - Volatile Organic Compound and Hydrogen chloride emissions are limited by optimizing the transfer efficiency and conversion of Monobutyl tin trichloride to a tin oxide coating on the glass containers. Increased transfer efficiency and reaction of the compound minimizes the throughput of Monobutyl tin trichloride (a VOC) for the HEST process.

   (9 VAC 5-50-260 and Condition 3 of 4/12/2005 NSR permit)

2. **Throughput** – The throughput of Monobutyl tin trichloride to the HEST equipment (Unit Ref. No. 6) shall not exceed 5256 gallons per year, calculated monthly as the sum of each consecutive 12-month period

   (9 VAC 5-80-110 and Condition 4 of 4/12/2005 NSR permit)

3. **Emission Limits** – Emissions from the operation of the HEST process (Unit Ref. No. 6) shall not exceed the limits specified below:

Volatile Organic Compounds	5.3 lbs/hr	23.3 tons/yr

   These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of the emission limits. Compliance with these emission limits may be determined as stated in Condition numbers IV.A.1, 2, 4 and IV.C.1.
   (9 VAC 5-50-260, 9 VAC 5-80-110 and Condition 5 of 4/12/2005 NSR permit)

4. **Visible Emission Limit** – Visible emissions from the HEST process exhaust shall not exceed ten percent (10%) opacity as determined by EPA Method 9 (Reference 40 CFR 60, Appendix A).

   (9 VAC 5-50-80 and Condition 7 of 4/12/2005 NSR permit)

5. **Maintenance/Operating Procedures** – The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment, monitoring devices, and process equipment which affect such emissions:

   a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.

   b. Maintain an inventory of spare parts.

   c. Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.

   d. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

   Records of maintenance and training shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.
   (9 VAC 5-50-20E, 9 VAC 5-80-110 and Condition 12 of 4/12/2005 NSR permit)

B. Monitoring

1. **Visible Emissions Monitoring** – The permittee shall perform a monthly visual evaluation on the exhaust of the HEST process hoods during normal operation of the process. If such visual observation indicates any visible emissions, the permittee shall take corrective actions to eliminate the visible emissions. If such corrective action fails to eliminate the visible emissions, the permittee shall conduct a visible emissions evaluation (VEE) using 40 CFR 60, Appendix A, Method 9 for six minutes. If the six-minute VEE opacity average exceeds 20%, the VEE shall continue for an additional twelve minutes. If any of the six-minute averages during the 18 minutes exceeds 30%, the VEE shall continue for one hour from the initiation, to determine compliance with the opacity limit. The permittee shall record the details of the visual emissions observations (VEEs) and any corrective actions taken.

   (9 VAC 5-80-110 and 9 VAC 5-50-260)

C. Recordkeeping

1. **On Site Records** - The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Director, Tidewater Regional Office. These records shall include, but are not limited to:

a. Annual throughput of Monobutyl tin trichloride, calculated monthly as the sum of each consecutive 12-month period;

b. Annual emissions (in lbs) of VOC and Hydrogen chloride, calculated monthly as the sum of each consecutive 12-month period;

c. Material Safety Data Sheets (MSDS) or other vendor information showing the VOC content (in lbs/gal) and the weight percent of any HAP for the bottle coating (HEST process);

d. Scheduled and unscheduled maintenance;

e. Records of the required training including a statement of time, place and nature of the training provided;

f. Monthly visible emissions monitoring results;

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.
(9 VAC 5-80-110 and Condition 8 of 4/12/2005 NSR Permit)

D. Testing

1. **Testing/Monitoring Ports** - The permitted facility shall be constructed so as to allow for emissions testing and monitoring upon reasonable notice at any time, using appropriate methods. This includes constructing the facility such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and providing stack or duct that is free from cyclonic flow. Test ports shall be provided when requested at the HEST exhaust or at the appropriate locations or in accordance with the applicable performance specification (reference 40 CFR 60, Appendix B).
(9 VAC 5-50-30 and 9 VAC 5-80-110)

2. When testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the following methods in accordance with procedures approved by the DEQ as follows:

Pollutant	Test Method (40 CFR Part 60, Appendix A)
Hydrogen Chloride	EPA Method 26
VOC	EPA Method 25a
PM/PM-10	EPA Methods 5, 17
Visible Emission	EPA Method 9

(9 VAC 5-80-110)

V. Insignificant Emission Units

The following emission units at the facility are identified in the application as insignificant emission units under 9 VAC 5-80-720:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
Refiners -2-A / 2-B	natural gas-fired molten glass heaters	5-80-720.C.2.a	NOx, PM10, CO, VOC	2.8 mmBtu/hour each
Forehearths 3-A / 3-B	Natural gas-fired glass heaters	5-80-720.C.2.a	NOx, PM10, CO, VOC	1.8 mmBtu/hour each
Lehrs A1, A2, B1, B2	Natural gas-fired glass heaters	5-80-720.C.2.a	NOx, PM10, CO, VOC	1.8 mmBtu/hour each
5.) Mold swabbing	Lubricant is added to bottle molds	5-80-720.B	PM/PM10	2.5 lbs per hour per machine
7.) Finishing emulsion	Polyethylene coating on bottles	5-80-720.B	PM/PM10	6.6.lbs polyethylene emulsion/hour/bottle line
8.) Bottle Coding Ink	Printing of I.D. number on the bottles	5-80-720.B	VOC	0.11 lbs of ink/hour/bottle line
9.) Box Coding	Printing of I.D. numbers on the boxes	5-80-720.B	VOC	0.002 lbs of ink/hour/bottle line
10.) Ink cleanup	Cleaning of bottle and box printing equip.	5-80-720.B	VOC	0.046 lbs of solvent/hour
11.) Box assembly glue	Glue is used to assemble the packing	5-80-720.B	PM/PM10	47 lbs of glue per hour
12A.)	Glass crusher for post-consumer and cullet	5-80-720.B	PM/PM10	15 tons per hour
13.)	Raw material unloading operation	5-80-720.B	PM/PM10	N/A
14.)	Batch Storage	5-80-720.B	PM/PM10	N/A
15.)	Parts washer station	5-80-720.B	VOC	N/A
17.)	Cooling Tower	5-80-720.B	PM/PM10	1220 gals water/hour
18.)	Storage Tanks	5-80-720 C	VOC	N/A
19.)	Oil/Water Separator	5-80-720.B	VOC/HAP	2.5 lbs swabbing material/hour/machine
20.)	Emergency diesel gen.	5-80-720.B	NOx, CO, SO2, PM	483 HP
21.)	Boiler (nat. gas)	5-80-720.C.2.a	NOx, CO, SO2, PM	0.344 mmBtu/hour
22.)	Central vacuum sys.	5-80-720.B	PM/PM10	20,000 lbs per hour
23.)	Cullet convey system	5-80-720.B	PM/PM10	211,700 tons per year
24.)	ESP Dust recycling system	5-80-720.B	PM/PM10	1460 tons per year

These emission units are presumed to be in compliance with all requirements of the federal Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping, or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

VI. Permit Shield & Inapplicable Requirements

Compliance with the provisions of this permit shall be deemed compliance with all applicable requirements in effect as of the permit issuance date as identified in this permit. This permit shield covers only those applicable requirements covered by terms and conditions in this permit and the following requirements which have been specifically identified as being not applicable to this permitted facility:

Citation	Title of Citation	Description of Applicability
40 CFR 60, Subpart Kb	Standards of Performance for Volatile Organic Storage Vessels	Subpart Kb has been amended to exempt those storage vessels previously subject to recordkeeping requirements only.

Nothing in this permit shield shall alter the provisions of §303 of the federal Clean Air Act, including the authority of the administrator under that section, the liability of the owner for any violation of applicable requirements prior to or at the time of permit issuance, or the ability to obtain information by the administrator pursuant to §114 of the federal Clean Air Act, (ii) the Board pursuant to §10.1-1314 or §10.1-1315 of the Virginia Air Pollution Control Law or (iii) the Department pursuant to §10.1-1307.3 of the Virginia Air Pollution Control Law.
(9 VAC 5-80-140)

VII. General Conditions

A. Federal Enforceability

All terms and conditions in this permit are enforceable by the administrator and citizens under the federal Clean Air Act, except those that have been designated as only state-enforceable.
(9 VAC 5-80-110 N)

B. Permit Expiration

This permit has a fixed term of five years. The expiration date shall be the date five years from the date of issuance. Unless a timely and complete renewal application consistent, with 9 VAC 5-80-80, has been submitted, to the Department, by the owner, the right of the facility to operate shall be terminated upon permit expiration.

1. The owner shall submit an application for renewal at least six months but no earlier than eighteen months prior to the date of permit expiration.

2. If an applicant submits a timely and complete application for an initial permit or renewal under this section, the failure of the source to have a permit or the operation of the source without a permit shall not be a violation of Article 1, Part II of 9 VAC 5 Chapter 80, until the Board takes final action on the application under 9 VAC 5-80-150.

3. No source shall operate after the time that it is required to submit a timely and complete application under subsections C and D of 9 VAC 5-80-80 for a renewal permit, except in compliance with a permit issued under Article 1, Part II of 9 VAC 5 Chapter 80.

4. If an applicant submits a timely and complete application under section 9 VAC 5-80-80 for a permit renewal but the Board fails to issue or deny the renewal permit before the end of the term of the previous permit, (i) the previous permit shall not expire until the renewal permit has been issued or denied and (ii) all the terms and conditions of the previous permit, including any permit shield granted pursuant to 9 VAC 5-80-140, shall remain in effect from the date the application is determined to be complete until the renewal permit is issued or denied.

5. The protection under subsections F 1 and F 5 (ii) of section 9 VAC 5-80-80 F shall cease to apply if, subsequent to the completeness determination made pursuant section 9 VAC 5-80-80 D, the applicant fails to submit by the deadline specified in writing by the Board any additional information identified as being needed to process the application.

(9 VAC 5-80-80 B, C and F, 9 VAC 5-80-110 D and 9 VAC 5-80-170 B)

C. Recordkeeping and Reporting

1. All records of monitoring information maintained to demonstrate compliance with the terms and conditions of this permit shall contain, where applicable, the following:

   a. The date, place as defined in the permit, and time of sampling or measurements.

   b. The date(s) analyses were performed.

   c. The company or entity that performed the analyses.

   d. The analytical techniques or methods used.

   e. The results of such analyses.

   f. The operating conditions existing at the time of sampling or measurement.

   (9 VAC 5-80-110 F)

2. Records of all monitoring data and support information shall be retained for at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.
   (9 VAC 5-80-110 F)

3. The permittee shall submit the results of monitoring contained in any applicable requirement to DEQ no later than **March 1** and **September 1** of each calendar year. This report must be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:

   a. The time period included in the report. The time periods to be addressed are January 1 to June 30 and July 1 to December 31.

b. All deviations from permit requirements. For purposes of this permit, deviations include, but are not limited to:

(1) Exceedance of emissions limitations or operational restrictions;

(2) Excursions from control device operating parameter requirements, as documented by continuous emission monitoring, periodic monitoring, or compliance assurance monitoring which indicates an exceedance of emission limitations or operational restrictions; or,

(3) Failure to meet monitoring, recordkeeping, or reporting requirements contained in this permit.

c. If there were no deviations from permit conditions during the time period, the permittee shall include a statement in the report that "no deviations from permit requirements occurred during this semi-annual reporting period."

(9 VAC 5-80-110 F)

D. Annual Compliance Certification

Exclusive of any reporting required to assure compliance with the terms and conditions of this permit or as part of a schedule of compliance contained in this permit, the permittee shall submit to EPA and DEQ no later than **March 1** each calendar year a certification of compliance with all terms and conditions of this permit including emission limitation standards or work practices. The compliance certification shall comply with such additional requirements that may be specified pursuant to §114(a)(3) and §504(b) of the federal Clean Air Act. This certification shall be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:

1. The time period included in the certification. The time period to be addressed is January 1 to December 31.

2. The identification of each term or condition of the permit that is the basis of the certification.

3. The compliance status.

4. Whether compliance was continuous or intermittent, and if not continuous, documentation of each incidence of non-compliance.

5. Consistent with subsection 9 VAC 5-80-110 E, the method or methods used for determining the compliance status of the source at the time of certification and over the reporting period.

6. Such other facts as the permit may require to determine the compliance status of the source.

One copy of the annual compliance certification shall be sent to EPA at the following address:

Clean Air Act Title V Compliance Certification (3AP00)
U. S. Environmental Protection Agency, Region III
1650 Arch Street
Philadelphia, PA 19103-2029

(9 VAC 5-80-110 K.5)

E. Permit Deviation Reporting

The permittee shall notify the Director, Tidewater Regional Office within four daytime business hours, after a deviation is discovered from permit requirements which may cause excess emissions for more than one hour, including those attributable to upset conditions as may be defined in this permit. In addition, within 14 days of the discovery, the permittee shall provide a written statement explaining the problem, any corrective actions or preventative measures taken, and the estimated duration of the permit deviation. The occurrence should also be reported in the next semi-annual compliance monitoring report pursuant to General Condition VII.D.3. of this permit.
(9 VAC 5-80-110 F.2 and 9 VAC 5-80-250)

F. Failure/Malfunction Reporting

In the event that any affected facility or related air pollution control equipment fails or malfunctions in such a manner that may cause excess emissions for more than one hour, the owner shall, as soon as practicable but no later than four daytime business hours after a deviation is discovered from permit requirements, notify the Director, Tidewater Regional Office by facsimile transmission, telephone or telegraph of such failure or malfunction and shall within 14 days of discovery provide a written statement giving all pertinent facts, including the estimated duration of the breakdown. Owners subject to the requirements of 9 VAC 5-40-50 C and 9 VAC 5-50-50 C are not required to provide the written statement prescribed in this paragraph for facilities subject to the monitoring requirements of 9 VAC 5-40-40 and 9 VAC 5-50-40. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the owner shall notify the Director, Tidewater Regional Office.
(9 VAC 5-80-250, 9 VAC 5-20-180 C, Condition 26 of 3/5/2004 NSR permit and Condition 10 of 4/12/2005 NSR permit)

G. Severability

The terms of this permit are severable. If any condition, requirement or portion of the permit is held invalid or inapplicable under any circumstance, such invalidity or inapplicability shall not affect or impair the remaining conditions, requirements, or portions of the permit.
(9 VAC 5-80-110 G.1)

H. Duty to Comply

The permittee shall comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the federal Clean Air Act or the Virginia Air Pollution Control Law or both and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or, for denial of a permit renewal application.
(9 VAC 5-80-110 G.2)

I. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
(9 VAC 5-80-110 G.3)

J. Permit Modification

A physical change in or change in the method of operation of, this stationary source may be subject to permitting under State Regulations 9 VAC 5-80-50, 9 VAC 5-80-1100, 9 VAC 5-80-1790, or 9 VAC 5-80-2000 and may require a permit modification and/or revisions except as may be authorized in any approved alternative operating scenarios.
(9 VAC 5-80-190, 9 VAC 5-80-260, Condition 1 of 3/5/2004 NSR permit and Condition 1 of 4/12/2005 NSR permit)

K. Property Rights

The permit does not convey any property rights of any sort, or any exclusive privilege.
(9 VAC 5-80-110 G.5)

L. Duty to Submit Information

1. The permittee shall furnish to the Board, within a reasonable time, any information that the Board may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Board copies of records required to be kept by the permit and, for information claimed to be confidential, the permittee shall furnish such records to the Board along with a claim of confidentiality.
   (9 VAC 5-80-110 G.6, 9 VAC 5-170-160, 9 VAC 5-20-160, Condition 31 of 3/5/2004 NSR permit and Condition 15 of 4/12/2005 NSR permit)

2. Any document (including reports) required in a permit condition to be submitted to the Board shall contain a certification by a responsible official that meets the requirements of 9 VAC 5-80-80 G.
   (9 VAC 5-80-110 K.1)

M. Duty to Pay Permit Fees

The owner of any source for which a permit under 9 VAC 5-80-50 through 9 VAC 5-80-300 was issued shall pay permit fees consistent with the requirements of 9 VAC 5-80-310 through 9 VAC 5-80-350. The actual emissions covered by the permit program fees for the preceding year shall be calculated by the owner and submitted to the Department by April 15 of each year. The calculations and final amount of emissions are subject to verification and final determination by the Department.
(9 VAC 5-80-110 H and 9 VAC 5-80-340 C)

N. Fugitive Dust Emission Standards

During the operation of a stationary source or any other building, structure, facility, or installation, no owner or other person shall cause or permit any materials or property to be handled, transported, stored, used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions may include, but are not limited to, the following:

1. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land;

2. Application of asphalt, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which may create airborne dust; the paving of roadways and the maintaining of them in a clean condition;

3. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty material. Adequate containment methods shall be employed during sandblasting or other similar operations;

4. Open equipment for conveying or transporting material likely to create objectionable air pollution when airborne shall be covered or treated in an equally effective manner at all times when in motion; and,

5. The prompt removal of spilled or tracked dirt or other materials from paved streets and of dried sediments resulting from soil erosion.

(9 VAC 5-40-90 and 9 VAC 5-50-90)

O. Startup, Shutdown, and Malfunction

At all times, including periods of startup, shutdown, and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Board, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

(9 VAC 5-50-20E and 9 VAC 5-40-20 E)

P. Alternative Operating Scenarios

Contemporaneously with making a change between reasonably anticipated operating scenarios identified in this permit, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating. The permit shield described in 9 VAC 5-80-140 shall extend to all terms and conditions under each such operating scenario. The terms and conditions of each such alternative scenario shall meet all applicable requirements including the requirements of 9 VAC 5 Chapter 80, Article 1.

(9 VAC 5-80-110 J)

Q. Inspection and Entry Requirements

The permittee shall allow DEQ, upon presentation of credentials and other documents as may be required by law, to perform the following:

1. Enter upon the premises where the source is located or emissions-related activity is conducted, or where records must be kept under the terms and conditions of the permit.

2. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of the permit.

3. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit.

4. Sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

(9 VAC 5-80-110 K.2, 9 VAC 170-130, Condition 24 of 3/5/2004 NSR permit and Condition 9 of 4/12/2005 NSR permit)

R. Reopening For Cause

The permit shall be reopened by the Board if additional federal requirements become applicable to a major source with a remaining permit term of three years or more. Such reopening shall be completed no later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 9 VAC 5-80-80 F.

1. The permit shall be reopened if the Board or the administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

2. The permit shall be reopened if the administrator or the Board determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

3. The permit shall not be reopened by the Board if additional applicable state requirements become applicable to a major source prior to the expiration date established under 9 VAC 5-80-110 D.

(9 VAC 5-80-110 L)

S. Permit Availability

Within five days after receipt of the issued permit, the permittee shall maintain the permit on the premises for which the permit has been issued and shall make the permit immediately available to DEQ upon request.
(9 VAC 5-80-150 E and Condition 32 of 3/5/2004 NSR permit and Condition 16 of 4/12/2005 NSR permit)

T. Transfer of Permits

1. No person shall transfer a permit from one location to another, unless authorized under 9 VAC 5-80-130, or from one piece of equipment to another.
(9 VAC 5-80-160)

2. In the case of a transfer of ownership of a stationary source, the new owner shall comply with any current permit issued to the previous owner. The new owner shall notify the Board of the change in ownership within 30 days of the transfer and shall comply with the requirements of 9 VAC 5-80-200.
(9 VAC 5-80-160, Condition 30 of 3/5/2004 NSR permit and Condition 14 of 4/12/2005 NSR permit)

3. In the case of a name change of a stationary source, the owner shall comply with any current permit issued under the previous source name. The owner shall notify the Board of the change in source name within 30 days of the name change and shall comply with the requirements of 9 VAC 5-80-200.
(9 VAC 5-80-160)

U. Malfunction as an Affirmative Defense

1. A malfunction constitutes an affirmative defense to an action brought for noncompliance with technology-based emission limitations if the requirements of paragraph 2 of this condition are met.

2. The affirmative defense of malfunction shall be demonstrated by the permittee through properly signed, contemporaneous operating logs, or other relevant evidence that show the following:

   a. A malfunction occurred and the permittee can identify the cause or causes of the malfunction.

   b. The permitted facility was at the time being properly operated.

   c. During the period of the malfunction the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit.

d. The permittee notified the board of the malfunction within two working days following the time when the emission limitations were exceeded due to the malfunction. This notification shall include a description of the malfunction, any steps taken to mitigate emissions, and corrective actions taken. The notification may be delivered either orally or in writing. The notification may be delivered by electronic mail, facsimile transmission, telephone, or any other method that allows the permittee to comply with the deadline. This notification fulfills the requirements of 9 VAC 5-80-110 F 2 b to report promptly deviations from permit requirements. This notification does not release the permittee from the malfunction reporting requirement under 9 VAC 5-20-180 C.

3. In any enforcement proceeding, the permittee seeking to establish the occurrence of a malfunction shall have the burden of proof.

4. The provisions of this section are in addition to any malfunction, emergency or upset provision contained in any applicable requirement.

(9 VAC 5-80-250)

V. Permit Revocation or Termination for Cause

A permit may be revoked or terminated prior to its expiration date if the owner knowingly makes material misstatements in the permit application or any amendments thereto or if the permittee violates, fails, neglects or refuses to comply with the terms or conditions of the permit, any applicable requirements, or the applicable provisions of 9 VAC 5 Chapter 80 Article 1. The Board may suspend, under such conditions and for such period of time as the Board may prescribe, any permit for any of the grounds for revocation or termination or for any other violations of these regulations.
(9 VAC 5-80-260, Condition 29 of 3/5/2004 NSR permit and Condition 13 of 4/12/2005 NSR permit)

W. Duty to Supplement or Correct Application

Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrections. An applicant shall also provide additional information as necessary to address any requirements that become applicable to the source after the date a complete application was filed but prior to release of a draft permit.
(9 VAC 5-80-80 E)

X. Stratospheric Ozone Protection

If the permittee handles or emits one or more Class I or II substances subject to a standard promulgated under or established by Title VI (Stratospheric Ozone Protection) of the federal Clean Air Act, the permittee shall comply with all applicable sections of 40 CFR Part 82, Subparts A to F.
(40 CFR Part 82, Subparts A-F)

Y. Asbestos Requirements

The permittee shall comply with the requirements of National Emissions Standards for Hazardous Air Pollutants (40 CFR 61) Subpart M, National Emissions Standards for Asbestos, as it applies to the following: Standards for Demolition and Renovation (40 CFR 61.145), Standards for Insulating Materials (40 CFR 61,148), and Standards for Waste Disposal (40 CFR 61.150).
(9 VAC 5-60-70 and 9 VAC 5-80-110 A.1)

Z. Accidental Release Prevention

If the permittee has more, or will have more than a threshold quantity of a regulated substance in a process, as determined by 40 CFR 68,115, the permittee shall comply with the requirements of 40 CFR Part 68.
(40 CFR Part 68)

AA. Changes to Permits for Emissions Trading

No permit revision shall be required under any federally approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit.
(9 VAC 5-80-110 I)

BB. Emissions Trading

Where the trading of emissions increases and decreases within the permitted facility is to occur within the context of this permit and to the extent that the regulations provide for trading such increases and decreases without a case-by-case approval of each emissions trade:

1. All terms and conditions required under 9 VAC 5-80-110, except subsection N, shall be included to determine compliance.

2. The permit shield described in 9 VAC 5-80-140 shall extend to all terms and conditions that allow such increases and decreases in emissions.

3. The owner shall meet all applicable requirements including the requirements of 9 VAC 5-80-50 through 9 VAC 5-80-300.

(9 VAC 5-80-110 I)

VIII. State-Only Enforceable Requirements

The following terms and conditions are not required under the federal Clean Air Act or under any of its applicable federal requirements, and are not subject to the requirements of 9 VAC 5-80-290 concerning review of proposed permits by EPA and draft permits by affected states.

1. 9 VAC 5-50-140 Standard for Odorous Emissions

(9 VAC 5-80-110 N and 9 VAC 5-80-300)

2. 9 VAC 5-60-320 Standard for Toxic Pollutants

(9 VAC 5-80-110 N and 9 VAC 5-80-300)

3. **Toxic Emission Limits** - Emissions of toxic pollutants from the operation of the HEST process (Unit Ref. No. 6) shall not exceed the limits specified below:

Hydrochloric Acid	1.0 lbs/hour	4.5 tons/yr

These emissions are derived from the estimated overall emission contribution from the operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of the emission limits. Compliance with these emission limits may be determined as stated in Condition numbers IV.A.1, 2, 3 and IV.C.1.
(9 VAC 5-50-260, 9 VAC 5-80-110 and Condition 6 of 4/12/2005 NSR permit)